

WHAT IS CLAIMED IS:

1. A method of automatically calibrating a loop-filter
of a phase locked loop, which loop-filter comprises
5 at least one RC-filter component and is integrated on
a single chip together with at least one RC-filter
component of another entity than said phase locked
loop, said method comprising tuning said at least one
RC-filter component of said loop-filter based on
10 measurements performed on said at least one RC-filter
component of said other entity.
2. A method according to claim 1, wherein tuning said at
least one RC-filter component of said loop-filter is
15 preceded by measuring an RC-product of said at least
one RC-filter component of said other entity and by
determining a tuning value for tuning said at least
one RC-filter component of said other entity by
comparing said measured RC-product with an RC-product
20 known to be required for said at least one RC-filter
component of said other entity, and wherein said
tuning of said at least one RC-filter component of
said loop-filter is based on said determined tuning
value.
- 25 3. A method according to claim 2, wherein said tuning
value is a control word which is applied to said at
least one RC-filter component of said loop-filter for
tuning said at least one RC-filter component of said
30 loop-filter.
4. A method according to claim 1, wherein tuning said at
least one RC-filter component of said loop-filter

comprises changing at least the value of a resistor and/or the value of a capacitor of said at least one RC-filter component of said loop-filter.

- 5 5. An integrated circuit chip comprising:
 a loop-filter for a phase locked loop, which
 loop-filter includes at least one RC-filter
 component;
 at least one RC-filter component for another
10 entity than said phase locked loop; and
 a calibrating component for performing
 measurements on said at least one RC-filter component
 for said other entity and for tuning said at least
 one RC-filter component of said loop-filter based on
15 such measurements.
6. An integrated circuit chip according to claim 5,
 wherein said calibrating component performs said
 measurements by measuring an RC-product of said at
20 least one RC-filter component for said other entity,
 wherein said calibrating component is further
 designed for determining a tuning value for tuning
 said at least one RC-filter component for said other
 entity by comparing a measured RC-product with a RC-
25 product known to be required for said at least one
 RC-filter component for said other entity, and
 wherein said calibrating component tunes said at
 least one RC-filter component of said loop-filter
 based on said determined tuning value.
- 30 7. An integrated circuit chip according to claim 6,
 wherein said calibrating component determines a
 control word as said tuning value, and wherein said

calibrating component applies a determined control word to said at least one RC-filter component of said loop-filter for tuning said at least one RC-filter component of said loop-filter.

5

8. An integrated circuit chip according to claim 5, wherein said at least one RC-filter component includes at least one of a tunable resistor and a tunable capacitor, and wherein said calibrating component tunes said at least one RC-filter component of said loop-filter by changing at least the value of said tunable resistor and/or the value of said tunable capacitor of said at least one RC-filter component of said loop-filter.

15

9. An integrated circuit chip according to claim 5, wherein said other entity is a base-band filter for a transmitter chain of a communication unit.
10. An integrated circuit chip according to claim 5, wherein said other entity is a channel-select filter for a receiver chain of a communication unit.

20

11. A unit comprising an integrated circuit chip with:
- 25 a loop-filter for a phase locked loop, which loop-filter includes at least one RC-filter component;
- at least one RC-filter component for another entity than said phase locked loop; and
- 30 a calibrating component for performing measurements on said at least one RC-filter component for said other entity and for tuning said at least

one RC-filter component of said loop-filter based on such measurements.

12. A unit according to claim 11, wherein said unit is a
5 communication unit comprising a transmitter chain and a receiver chain, and wherein said other entity is one of a base-band filter for said transmitter chain and a channel-select filter for said receiver chain.